Amendments to the Claims

The listing of claims below is intended to replace all prior listings of claims presented in the above-identified application.

1-119 (canceled)

120. (Currently amended) An array of oligonucleotide probes on a solid support comprising:

a solid support having an array of positions each suitable for attachment of an oligonucleotide probe;

a linker ~~or support~~ suitable for coupling an oligonucleotide probe to the solid support and attached to the solid support at each of the array positions; and

an array of capture oligonucleotide probes on the solid support ~~with~~ at ~~least some of the~~ array positions ~~being occupied by oligonucleotide probes,~~ having greater than sixteen nucleotides and substantially similar thermal stabilities, wherein each capture oligonucleotide probe of the array differs from its adjacent capture oligonucleotide probe by at least 25% of the nucleotides.

121. (Currently amended) An array according to claim 120, wherein different capture oligonucleotide probes are attached at different array positions on the solid support to detect different nucleic acids.

122. (original) An array according to claim 120, wherein the solid support is made from a material selected from the group consisting of plastic, ceramic, metal, resin, gel, glass, silicon, and composites thereof.

123. (original) An array according to claim 120, wherein the solid support is in a form selected from the group consisting of slides, discs, membranes, films, and composites thereof.

124. (Currently amended) An array according to claim 120, wherein the solid support has an array of positions with capture oligonucleotide probes attached to all of the array of positions.

125. (original) An array according to claim 124, wherein the solid support has wells, raised regions, or etched trenches.

126. (original) An array according to claim 125, wherein the solid support is in a microtiter plate.

127. (original) An array according to claim 120, wherein the linker comprises a silane on a surface of the solid support.

128. (original) An array according to claim 120, wherein the solid support is functionalized with olefin, amino, hydroxyl, silanol, aldehyde, keto, halo, acyl halide, or carboxyl groups.

129. (original) An array according to claim 128, wherein the solid support is functionalized with an amino group by reaction with an amine compound selected from the group consisting of 3-aminopropyl triethoxysilane, 3-aminopropylmethyldiethoxysilane, 3-aminopropyl dimethylethoxysilane, 3-aminopropyl trimethoxysilane, N-(2-aminoethyl)-3-aminopropylmethyl dimethoxysilane, N-(2-aminoethyl-3-aminopropyl) trimethoxysilane, aminophenyl trimethoxysilane, 4-aminobutyldimethyl methoxysilane, 4-aminobutyl triethoxysilane, aminoethylaminomethylphenethyl trimethoxysilane, and mixtures thereof.

130. (original) An array according to claim 128, wherein the solid support is functionalized with an olefin-containing silane.

131. (original) An array according to claim 130, wherein the olefin-containing silane is selected from the group consisting of 3-(trimethoxysilyl)propyl methacrylate, *N*-[3-(trimethoxysilyl)propyl]-*N'*-(4-vinylbenzyl)ethylenediamine, triethoxyvinylsilane, triethylvinylsilane, vinyltrichlorosilane, vinyltrimethoxysilane, vinyltrimethylsilane, and mixtures thereof.

132. (original) An array according to claim 130, wherein the silanized support is polymerized with an olefin containing monomer.

133. (original) An array according to claim 132, wherein the olefin-containing monomer contains a functional group.

134. (original) An array according to claim 133, wherein the olefin-containing monomer is selected from the group consisting of acrylic acid, methacrylic acid, vinylacetic acid, 4-vinylbenzoic acid, itaconic acid, allyl amine, allylethylamine, 4-aminostyrene, 2-aminoethyl methacrylate, acryloyl chloride, methacryloyl chloride, chlorostyrene, dichlorostyrene, 4-hydroxystyrene, hydroxymethylstyrene, vinylbenzyl alcohol, allyl alcohol, 2-hydroxyethyl methacrylate, poly(ethylene glycol) methacrylate, and mixtures thereof.

135. (original) An array according to claim 132, wherein the support is polymerized with a monomer selected from the group consisting of acrylic acid, acrylamide, methacrylic acid, vinylacetic acid, 4-vinylbenzoic acid, itaconic acid, allyl amine, allylethylamine, 4-aminostyrene, 2-aminoethyl methacrylate, acryloyl chloride, methacryloyl chloride, chlorostyrene, dichlorostyrene, 4-hydroxystyrene, hydroxymethyl styrene, vinylbenzyl alcohol, allyl alcohol, 2-hydroxyethyl methacrylate, poly(ethylene glycol) methacrylate, and mixtures thereof, together with a monomer selected from the group consisting of acrylic acid, methacrylic acid, vinylacetic acid, 4-vinylbenzoic acid, itaconic acid, allyl amine, allylethylamine, 4-aminostyrene, 2-aminoethyl methacrylate, acryloyl chloride, methacryloyl chloride, chlorostyrene, dichlorostyrene, 4-hydroxystyrene, hydroxymethyl styrene, vinylbenzyl alcohol, allyl alcohol, 2-hydroxyethyl methacrylate, poly(ethylene glycol) methacrylate, methyl acrylate, methyl methacrylate, ethyl acrylate, ethyl methacrylate, styrene, 1-vinylimidazole, 2-vinylpyridine, 4-vinylpyridine, divinylbenzene, ethylene glycol dimethacrylate, *N,N'*-methylenediacrylamide, *N,N'*-phenylenediacrylamide, 3,5-bis(acryloylamido) benzoic acid, pentaerythritol triacrylate, trimethylolpropane trimethacrylate, pentaerytrithol tetraacrylate, trimethylolpropane ethoxylate (14/3 EO/OH) triacrylate, trimethylolpropane ethoxylate (7/3 EO/OH) triacrylate, trimethylolpropane propoxylate (1 PO/OH) triacrylate, trimethylolpropane propoxylate (2 PO/OH) triacrylate, and mixtures thereof.

136. (original) An array according to claim 120, wherein the linker or support is non-hydrolyzable.

137. (currently amended) An array according to claim 120, wherein the array is reusable for repeatedly hybridizing oligonucleotides to the array of capture oligonucleotides ~~probes~~ probes on the solid support.

138-147 (canceled)

148. (Newly presented) An array according to claim 120, wherein each of the capture oligonucleotide probes on the solid support has a different nucleotide sequence.